



Report from MicroResearch Curriculum Development Meeting

April 28-30, 2014

Halifax, Canada



Eisha Grant in Halifax presenting outcomes of her research in Uganda



Funding and “In Kind” contributions for MicroResearch Curriculum Development Meeting

- International Development Research Council (IDRC) Canada
- Global Health Research Initiative (GHRI) Canada
- Department Foreign Affairs, Trade and Development (DFATD) Canada
- IWK Health Centre & Foundation, Halifax, Canada
- Department of Paediatrics, Dalhousie University, Halifax, Canada
- Tanzanian Training Centre International Health (TTCIH) Tanzania
- Mbarara University for Science and Technology (MUST) Uganda
- University of Nairobi (UoN) Kenya

- With ongoing support to MicroResearch from:
 - Canadian Child Health Clinician Scientist Program
 - Healthy Child Uganda
 - Dalhousie Medical Research Foundation
 - Dalhousie University
 - Makerere University
 - University of Alberta
 - University of Calgary BC Women’s and Children’s Hospital Foundation
 - Canadian Paediatric Society
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 - Process Pathways
 - Private donations

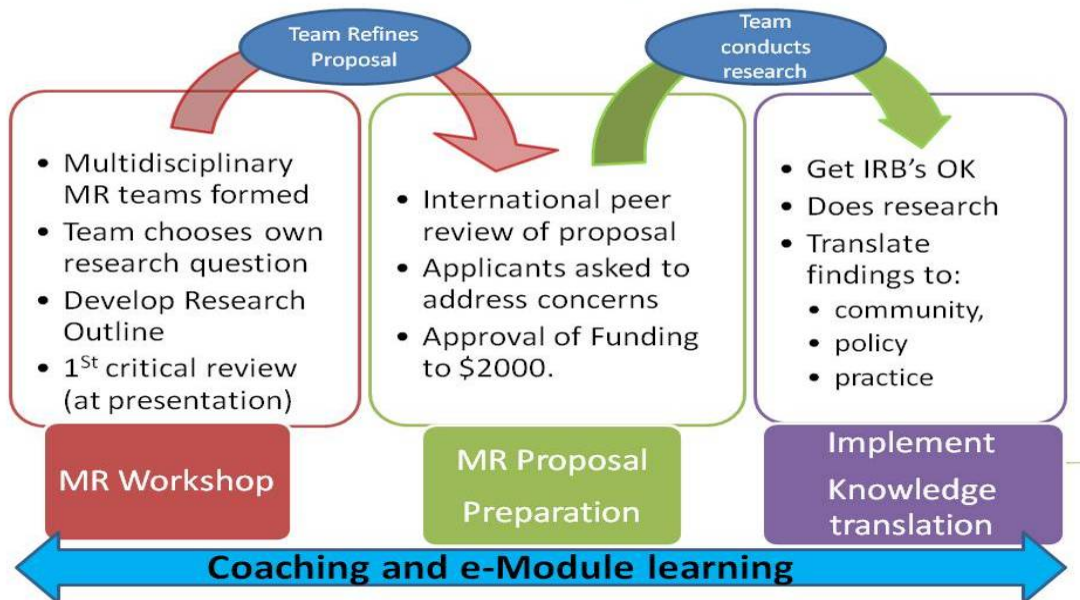
Background:

Poverty, hunger, illiteracy, maternal and child deaths in lower income developing countries (LIDC) are social and health issues that the world began to address in 2000 by pledging to achieve eight Millennium Development Goals (MDGs) by 2015. Building on MDG achievements, the United Nations proposed the Action Agenda for Sustainable Development (2013), including further actions to improve health outcomes. Developing local capacity to sustain and improve on health gains is a challenge since resource limited LIDC bear 25% of the globe's disease burden with less than 1% of its healthcare professionals (HCP).

MicroResearch (MR) is attempting to build local health research capacity to identify and find solutions for local health problems affecting communities in East Africa and then translating these findings into change.

Training starts with a two-week MR Workshop, when participants learn basic research proposal development, analytic, and knowledge translation skills (see figure). On the first day of the workshop, participants are divided into multidisciplinary teams of seven or eight. In parallel with the lectures and seminars, each team develops a research project to address one of their self-identified health care research questions. Workshop participants come from diverse disciplines with a range of academic experiences.

MicroResearch Program Process



To date, MR has trained over 390 healthcare professionals at five universities in Uganda, Kenya and Tanzania. Over 40 MR research teams have been formed with 29 submitting proposals for funding; 27 were approved, 22 of these are underway and seven completed¹. The results of five projects have been published in PubMed journals²⁻⁶ and one project has lead to policy change. A culture of inquiry is emerging locally and may

ultimately reach the “critical mass” envisioned during the 2008 Mali WHO Conference on research in developing countries.

After five years of experience of conducting MR Workshops with e-module curriculum support its strength is evident but improvements are needed. Two strategies were used to assess what further research skills are needed by MR graduates: 1) an online needs assessment survey of MR workshop graduates in February 2013 and 2) a two-day, face-to-face discussion held in Uganda with Eastern African research leaders and graduates of five past MicroResearch Workshops in March 2013. These meetings identified four further key research skills needed to further grow research capacity.

The MR goal is for Eastern Africa to become self sufficient for MR training, coaching, and project funding. Strengthening analytic skills and knowledge translation skills will be needed to reach this goal. But MR faces challenges; participants require supportive training to acquire needed skills and local role models to inspire them to become successful in community based researchers.

Objectives:

MR workshop graduates have indicated that they now want more skills in order to raise their research potential to a higher level. The objective of this project was to develop educational web based e-modules for MR workshop graduates in four areas; Quantitative Analysis, Qualitative Analysis, Knowledge translation and Questionnaire Skills Development.

Process:

Module developers from Africa, all MR workshop graduates or senior MR leaders, participated in the “MicroResearch 2020” Strategic Planning Conference in Toronto in order to understand the overall direction for MR, its goals for training and to contribute to MR strategic planning.

The module developers from Africa then joined their Canadian counterparts (Appendix 1 and 2) in Halifax to draft initial e module development plans:

- **Quantitative Analysis Module:** Eisha Grant from Uganda collaborated with Linda Dodds, Professor Pediatrics and Obstetrics and Gynecology, Dalhousie University and Director of the Perinatal Epidemiology Research Unit.
- **Qualitative Analysis Module:** Eleanor Turyakira from Uganda collaborated with Shawna O’Hearn, Director of the faculty of Medicine Global Health Program and (via Skype) with Janice Graham Professor of Pediatrics, Dalhousie University and the Scientific Director of the Technoscience and Regulation Research Unit and the Qualitative Research Commons and Studio at Dalhousie.
- **Knowledge Translation Module:** Zabron Abel and Senga Pemba from Tanzania collaborated with Noni MacDonald and Robert Bortolussi, Professors Pediatrics, Dalhousie, Co-Founders of MicroResearch and authors of the MicroResearch Workshop lecture on Knowledge Translation.
- **Questionnaire Module and Sampling Method Module:** Oriokot Francis from Uganda, and Walter Mwanda from Kenya, collaborated with Anthony Otley, Professor of Pediatrics, Dalhousie University on questionnaire development, and John LeBlanc on sampling strategies. Both are clinical trial experts in these fields.

Over the two days of meetings, the collaborators developed a content outline and initial draft of their module. There were joint discussions on how to streamline the content and to use similar formats for the four modules. Prior to and during the Halifax meeting, the module developers had support from the web developer (TWG) and Dalhousie University adult education experts (Krista Ritchie PhD). The face-to-face interaction allowed a collegial and supportive working relationship for completion of the modules by regular Skype and electronic communication.

Other Outcomes:

Because of the public enthusiasm for global health in Halifax, many people heard about our guests from Africa and wanted to meet them. Thus, a few special events were arranged. Funding for these extra events was provided from the IWK Health Centre and the department of Pediatrics (Dalhousie University). With this support, an evening dinner reception was held on Sunday April 27 (about 30 local guests), and a noon hour luncheon on April 28 for residents and other trainees at the IWK (about 15 attended). The African guests also had a chance to meet some members of the wider Dalhousie community. These meetings were coordinated by the Faculty of Medicine's Global Health Office. The meetings provided an opportunity to formulate preliminary plans for a joint research project between Dalhousie University and the Tanzanian Training Centre for International Health (Ifakara, Tanzania). Dr Walter Mwanda also presented at Department of Pediatrics Grand Rounds on April 30 (about 100 attendees) to discuss his experiences with Burkett's Lymphoma and other childhood malignancies in Kenya. These meetings and events created community interest, resulting in an interview on a local TV station and a feature article in the Halifax Chronicle Herald- the Maritime regional newspaper. During all of these events the contribution of IDRC and GHRI was gratefully acknowledged.

Next Steps

The African and Canadian collaborators will continue to communicate via email and Skype to complete their modules. Editing will begin over the summer of 2014 and field test the modules at the home site of each African expert prior to posting on the MR website.

Thank You

Funds were gratefully received from IDRC/GHRI/DFATD to support this Strategic Planning Meeting. Thanks to all who participated in developing new curriculum modules. Thanks also to Mary Appleton and Tasha Brown for their organizational skills that made the meeting possible.



From left: Tobias Kollmann, Eleanor Turyakira, Oriokot Francis, Eisha Grant, Senga Pemba, Noni MacDonald, Walter Mwanda, Zabron Abel, and Robert Bortolussi

Appendix 1: Module Developers from Africa

Zabron Abel BCS, MBA

Zabron Abel is an IT professional, Manager for E-Learning at the Tanzanian Training Centre for International Health in Ifakara Tanzania. Zabron has Bachelor of Computer Science and a Masters in Business Administration from University of Dar es Salaam. He has exceptional skills in database systems management (Sybase database administration –Nairobi, Kenya, Sybase database performance and tuning, Johannesburg,SA) and experience in managing IT projects (CompTIA project management – Johannesburg,SA). He joined the National e-Learning Support Centre as project manager before later joining Tanzanian Training Centre for International Health. He is a funded MicroResearch investigator whose team is exploring the use of cell phone reminders to improve attendance at prenatal clinics in the Ifakara region. Zabron is the local program co-ordinator for MicroResearch at Tanzanian Training Centre for International Health. Zabron and Senga Pemba collaborated with Noni MacDonald and Robert Bortolussi on Knowledge Translation.

Eisha Grant, MBChB, MPH

Eisha Grant is head of clinical services at KADIC Hospital, overseeing all clinical departments within KADIC Hospital / KADIC Health Services in Kampala Uganda. Previously, she has worked with Ministry of Health Uganda, as a technical officer supporting the Child Health Division, in programs such as- Training Health Workers on IMCI/HIV management in children under the age of 5 (Integrated Management of Childhood Illnesses), Part of the team in MoH that developed the Uganda Newborn Care Standards, Part of the team that developed tools for Integrated Community Case Management of Diarrhea, Malaria and Pneumonia in Uganda and National Trainer for MPDR - Maternal, Perinatal Death Reviews. She holds a medical degree from Mbarara University of Science and Technology and a Masters in Public health from the University of Saskatchewan. She has been involved with MicroResearch since 2010 developing a research project on causes first week neonatal on mortality in rural Uganda. She is the MicroResearch co-ordinator for communications in East Africa. She has a passion for improving maternal and child health in general but especially in rural areas where health services. She has focused on training health workers with relevant skills that prevent maternal/child morbidity and mortality. Eisha collaborated with Linda Dodds on the Quantitative Analysis Module

Eleanor Turyakira, BSc, MSc

Eleanor Turyakira is a Statistical Epidemiologist, Lecturer of Biostatistics and Epidemiology at the Department of Community Health, Mbarara University of Science and Technology. Eleanor has Bachelor of Statistics and a Masters of Science in Clinical Epidemiology and Biostatistics from Makerere University. She recently completed a Masters of Clinical Trials from London School of Hygiene and Tropical Medicine. Eleanor is Doctoral student, pursuing a PhD in Health Services, Walden University. She worked as a Statistician for the Mbarara University teaching hospital, overseeing implementation of the Health Management Information System. Eleanor later joined MSF-Epicentre's Mbarara Research Base as Statistician and Data Coordinator for Clinical trials of antimalarials for children and pregnant women, and diagnostic tools for tuberculosis. Eleanor has experience in conducting surveys, clinical trials and statistical data analysis. She has been trained in MicroResearch methodology and is currently the Monitoring and Evaluation Advisor for the Healthy Child Uganda –Muskoka project that is scaling up comprehensive maternal, newborn and child health programming in Bushenyi and Rubirizi districts in Uganda. Eleanor collaborated with Janice Graham and Shawna O'Hearn on the Qualitative analysis module.

Walter Mwanda, MBChB, MD, EBS

Walter Mwanda is the Director of the University of Nairobi Institute of Tropical and Infectious diseases and an Associate Professor University of Nairobi, Department of Human Pathology (Section of Haematology and Blood Transfusion). He is a consultant in – Haematology, blood transfusion and –Oncology (Kenyatta National

Hospital.) and is in charge of Paediatric Oncology at Kenyatta National Hospital and the University of Nairobi as well as being in charge of the Blood Transfusion Services at Kenyatta National Hospital. He is a medical graduate of the University of Nairobi, undertook postgraduate training in general pathology in Nairobi and the Royal Infirmary Glasgow Scotland followed by further training in hematology and blood transfusion at Kenyatta National Hospital and the Glasgow Royal Infirmary in Scotland (UK) Department of Haematology as well as a post-graduate course in Epidemiology and Biostatistics in Clinical Epidemiology and Biostatistics of John Hopkins University, Maryland, USA. He has a major interest in education as well as clinical care and is currently the site leader for MicroResearch at the University of Nairobi. In 2102 he was the Chairman of the Department of Human Pathology for syllabus and curriculum development and for the examinations. Walter and Oriokot Francis collaborated with Anthony Otley and John LeBlanc on the Questionnaire and Sampling methods Module.

Oriokot Francis, MBChB, M.Med (Paed &CH), DTCH

Oriokot Francis is a Consultant Paediatrician, working with the Ministry of Health at Mbarara Regional Referral Hospital, which serves as the Teaching Hospital for Mbarara University of Science and Technology. Oriokot has Bachelor of Medicine & Bachelor of Surgery and a Masters of Medicine in Paediatrics and Child Health degree of Makerere University. He obtained a Diploma in Tropical Child Health from the University of Liverpool. Oriokot has worked with the Ministry of Health at Mulago National Referral and Teaching Hospital as a Paediatrician, where he was coordinating the Senior Residents' program. He joined the African Medical and Research Foundation as a Senior Health Advisor and Program Development Officer. He worked with the World Health Organization as a National Professional Officer, coordinating the humanitarian assistance for the emergency situation in Northern Uganda. Oriokot has experience in conducting national surveys in nutrition and acute childhood illnesses (diarrhoeal diseases, Acute Respiratory Infections and malaria). He has been trained in MicroResearch and participates in the teaching of the MicroResearch course in Mbarara. He has been involved with Healthy Child Ugandain conducting Health Facility Assessments for implementing Save Newborn Lives programs in the districts of Bushenyi, Rubirizi and Ntungamo. He is currently on the Technical Team for MUSKOKA project that is scaling up comprehensive maternal, newborn and child health programming in Bushenyi and Rubirizi districts in Uganda. Oriokot and Walter Mwanda collaborated with Anthony Otley and John LeBlanc on the Questionnaire and Sampling methods Module.

Senga Pemba MSc Med, PhD

Senga Pemba, is the Director of the Tanzanian Training Centre for International Health (TTCIH). He is an Associate Professor in Community Health and Epidemiology at St. Francis University College of Health and Allied Sciences and is an adjunct Professor in the Division of Medical Education at Dalhousie University. Dr. Pemba has a deep commitment to community health and improvement in health outcomes through training of health professionals. TTCIH has focused attention on postgraduate training programs for health professionals but also has been involved in training a cadre of "community health agents" i.e. health workers, selected by the community where he/she lives, formally trained and working in his/her own community performing a diverse range of roles and activities to support health. TTCIH is also closely affiliated with St Francis University College of Health and Allied Sciences and has a large research program focused on malaria and on HIV. Senga and Zabron Able collaborated with Noni MacDonald and Robert Bortolussi on Knowledge Translation.

Appendix 2: Module Developers from Canada

Robert Bortolussi MD Professor, Dalhousie University (Knowledge Translation Module)

Dr Bortolussi is co founder of MicroResearch and former Vice President of Research at the IWK Health Centre. He developed the MicroResearch Curriculum modules, by adapting educational modules of the Canadian Child Health Clinician Scientist Program, which he also helped write. He is a Professor of Paediatrics (Infectious Diseases) and holds a clinical appointment in Paediatric Infectious Diseases at the IWK Health Centre in Halifax Canada. Robert collaborated with Noni MacDoanld, Zabron Able, and Senga Pemba on Knowledge Translation.

Linda Dodds, Ph.D. Epidemiology, Professor Dalhousie University (Quantitative Analytic Module)

Dr. Dodds obtained a Master's degree in Biostatistics from the University of Washington and a Ph.D. in Epidemiology from the University of Toronto. Dr. Dodds is currently the director of the Director, Perinatal Epidemiology Research Unit at the IWK Health Centre. Dr. Dodds is a Professor in the Department of Obstetrics and Gynaecology and Pediatrics at Dalhousie University and the IWK Health Centre and has a cross-appointment with the Department of Community Health and Epidemiology. Since July 2008, she has been the Director of Research for the Department of Obstetrics and Gynaecology. Since 2005 she served as the Editor of the Newsletter of the Canadian Society of Epidemiology and Biostatistics. Dr. Dodds has held a Clinical Research Scholar Award (2002-2007) from Dalhousie University Faculty of Medicine and a New Investigator Award from the Canadian Institutes of Health Research (2003-2007). Linda collaborated with Eisha Grant on the Quantitative Analysis Module

Janice Graham, PhD, Professor Dalhousie University (Qualitative Analytic Module)

Dr. Graham graduated in Anthropology from the University of Victoria (MA, 1982), and the Université de Montréal (PhD, 1997). She received a Canadian Institutes of Health Research New Investigator Award (1999-2002). She chairs the Health Canada Expert Advisory Panel on the Special Access Program. Dr. Graham is the Scientific Director of the Technoscience and Regulation Research Unit (TRRU) and the Qualitative Research Commons and Studio (QuRCs) at Dalhousie. She is also the outgoing President of the Canadian Anthropology Society/Société canadienne d'anthropologie (CASC), and has finished two consecutive terms as the Canada Research Chair in Bioethics. As a medical anthropologist, Dr. Graham draws upon anthropology, and bioethics to approach cultural, technical and moral issues in health. She studies regulatory practices, diagnostic imaginaries and databases as cultural texts. Her more recent ethnographic research examines safety and efficacy in the regulation of emerging biotherapeutics and vaccines at Health Canada and internationally. Janice collaborated with Eleanor Turyakira and Shawna O'Hearn on the Qualitative analysis module.

John LeBlanc, MD, MSc, Associate Professor, Dalhousie University (Questionnaire and Sampling Module)

Dr. John LeBlanc is a pediatrician at the IWK Health Centre and Associate Professor of Pediatrics, Psychiatry and Community Health and Epidemiology at Dalhousie University. He holds research grants to evaluate two programs designed to create peaceful school climates and to develop a screening system for child mental health disorders. Before joining Dalhousie University, John was the Provincial Epidemiologist for Nova Scotia. He was responsible for provincial surveillance of diseases and served on federal committees related to surveillance and epidemiology. John collaborated with Anthony Otley and Oriokot Francis on the Questionnaire and Sampling methods Module.

Noni MacDonald, MD, MSc, Professor, Dalhousie University (Knowledge Translation Module)

Dr. MacDonald is a Professor of Paediatrics (Infectious Diseases) with a clinical appointment in Paediatric Infectious Diseases at the IWK Health Centre in Halifax Canada. She is a former Dean of Medicine at Dalhousie University. Her current three major areas of interest are in 1) Vaccines, especially vaccine safety and vaccine hesitancy through her work with the World Health Organization and mitigating pain with vaccines, and vaccines and policy through her work at the Canadian Centre for Vaccinology;

2) MicroResearch, building capacity in community focused research in developing countries in Eastern Africa (www.microresearch.ca) and 3) application of Health Information Systems in developing countries to improve health outcomes. She has published over 300 papers; is the founding Editor-in-Chief of Paediatrics and Child Health, and a former Editor-in-Chief of CMAJ (Canadian Medical Association Journal). Dr. MacDonald has long been involved in knowledge translation through her work on policy committee, guideline development, thru education and publishing. She has long been recognized in Canada and internationally, as an advocate for children and youth health and as a leader in paediatric infectious disease. . Noni collaborated with Robert Bortolussi, Zabron Able, and Senga Pemba on Knowledge Translation.

Shawna O’Hearn, MSC, Director Dalhousie Global Health Office (Qualitative Analytic Module)

Ms Shawna O’Hearn has served as the director of Dalhousie’s Global Health Office since 2008. In this role she supports faculty, staff, and students through educational activities and resources targeting global health issues. The Global Health Office is a team of health care professionals, educators and managers who work with a network of people and organizations committed to promoting better and more equitable health worldwide through the production and use of relevant knowledge. Shawna collaborated with Eleanor Turyakira and Janice Graham on the Qualitative analysis module.

Anthony Otley, MD, MSc, Professor Dalhousie University (Questionnaire Module)

Dr. Otley is a pediatric gastroenterologist at IWK Health Centre, where he is Head of the Division of Gastroenterology & Nutrition. Dr. Otley earned both his medical degree and a Master of Science in Clinical Epidemiology and Health Care Research from the University of Toronto in Ontario. An area of research interest is the development of outcome measures used in pediatric gastroenterology, with work conducted on health-related quality of life (HRQOL) in pediatric IBD, and a CIHR funded study on HRQOL in pediatric post-liver transplantation. He has also developed many web and paper based questionnaires to collect data on research issues of interest to him. He is widely published, including over 60 papers and over 100 published abstracts. Dr Otley has held a Clinical Research Scholar Award (2004-2009) from Dalhousie University Faculty of Medicine. In 2011, Dr. Otley was presented with an Award for Excellence in Patient and Family-Centered Care by the IWK Health Centre Family Leadership Council. Anthony collaborated with John LeBlanc and Oriokot Francis on the Questionnaire and Sampling methods Module.

Consultants

Educational Consultant:

Krista Ritchie PhD, Consulting Scientist for Interdisciplinary Research at the IWK Health Centre will provide insight on adult e-learning methods.

Web Consultant:

The Working Group, TWG, www.theworkinggroup.ca (Web based curriculum platform)

TWG designed and built the existing MR Curriculum web site and were selected to develop the new platform and modules. TWG is an Internet software company made up of designers, coders, and strategists, with offices in Toronto and New York City.

e-Module Consultant:

Tobias Kollmann, MD, PhD is a Clinician Scientist at Vancouver’s Child and Family Research Institute, Associate Professor, Department of Pediatrics, Division of Infectious Diseases, Vaccine Evaluation Centre in the University of British Columbia. Dr. Kollmann directs UBC’s training program in Global Pediatric Infectious Diseases (GpID) and the Vancouver Immune and Vaccine Analysis Research Center (VIVArc). He has received the Michael Smith Foundation for Health Research Career Investigator Award, and the Canadian Child Health Clinician Scientist Career Development Award. He is an active teacher in the MicroResearch program and currently serves as the Associate Director MicroResearch Curriculum.



Meeting with CEO of IWK Health Centre



Round table discussion with all module developers



Krista Ritchie Educational consultant